



2217

PATENT
0234-0415P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: Shigeru KUROSAWA Conf.: 4040
Appl. No.: 09/739,812 Group: 2817
Filed: December 20, 2000 Examiner: A.M. KINKEAD
For: HIGH-FREQUENCY OSCILLATION CIRCUIT AND
MEASURING DEVICE

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INFORMATION DISCLOSURE STATEMENT
(SUBMISSION AFTER FILING OF AN APPLICATION
BUT BEFORE FINAL REJECTION OR NOTICE OF ALLOWANCE
OR CONCURRENTLY WITH A RULE 53(d) CPA APPLICATION
OR WITH A RULE 1.114 RCE APPLICATION)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

May 12, 2003

Sir:

Pursuant to 37 C.F.R. §§ 1.97 and 1.98, applicant(s) hereby submit(s) an Information Disclosure Statement for consideration by the Examiner.

I. LIST OF PATENTS, PUBLICATIONS OR OTHER INFORMATION

The patents, publications, or other information submitted for consideration by the Office are listed on the PTO-1449(s), attached hereto.

II. COPIES (check at least one box)

- a. ☒ Submitted herewith is a legible copy of (i) each U.S. and foreign patent; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed.
- b. ☐ Some or all of the documents listed on the PTO-1449 are not enclosed because they were cited in the International Search Report and copies should already be in the PTO file. If copies are needed, please contact the undersigned.

III. CONCISE EXPLANATION OF THE RELEVANCE
(check at least one box)

a. ☒ **DOCUMENTS IN THE ENGLISH LANGUAGE**

The attached patents, publications, or other information in the English language do not require a statement of relevancy.

b. ☐ **DOCUMENTS NOT IN THE ENGLISH LANGUAGE**

A concise explanation of the relevance of all patents, publications, or other information listed that is not in the English language is as follows:

c. ☒ **ENGLISH LANGUAGE SEARCH REPORT**

An English language version of the search report or action that indicates the degree of relevance found by the foreign office is attached, thereby satisfying the requirement for a concise explanation. See MPEP 609(III) (A) (3).

d. ☐ **OTHER**

The following additional information is provided for the Examiner's consideration.

FEES

IV. ☐ THIS IDS IS BEING FILED UNDER 37 C.F.R. § 1.97(b):
(check one box)

- a. ☐ within three months of the filing date of a national application (37 C.F.R. § 1.97(b)(1)). No fee or statement is required. (This section is not to be used with RCE's and CPA's).
- b. ☐ within three months of the date of entry of the national stage as set forth in § 1.491 in an international application (37 C.F.R. § 1.97(b)(2)). No fee or statement is required.
- c. ☐ concurrently with the filing of a Continued Prosecution Application under 37 C.F.R. § 1.53(d) or concurrently with the filing of a Request for Continued Examination under § 1.114 (37 C.F.R. § 1.97(b)(4)). No fee or statement is required.
- d. ☐ before the mailing date of a first Action on the merits (37 C.F.R. § 1.97(b)(3)). No fee or statement is required.
In the event that a first Office Action on the merits has been issued, please consider this IDS under 37 C.F.R. § 1.97(c) and see the statement under 37 C.F.R. § 1.97(e) below, or, if no statement has been made, charge our deposit account in the amount of \$180.00 as required by 37 C.F.R. § 1.17(p).

V. ☒ THIS IDS IS BEING FILED UNDER 37 C.F.R. § 1.97(c):
(check one box)

before the mailing date of a Final Office Action under 37 C.F.R. § 1.113 (See 37 C.F.R. § 1.97(c)(1)) or before the mailing date of a Notice of Allowance under 37 C.F.R. § 1.311 (See 37 C.F.R. § 1.97(c)(2)).

- a. ☐ No statement; therefore, a fee in the amount of \$180.00 as required by 37 C.F.R. § 1.17(p).
or
- b. ☒ See the statement below. No fee is required.

VI. STATEMENT UNDER 37 C.F.R. § 1.97(e) (check only one box)

The undersigned hereby states that

- a. ☒ each item of information contained in the IDS was first cited in any communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS; or
- b. ☐ no item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of IDS was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of the IDS.
- c. ☐ Some of the items of information were cited in a communication from a foreign Patent Office. As to this information, the undersigned states that each item of information contained in the IDS was first cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby states that no item of this remaining information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application and, to the best of my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this statement.

VII. PAYMENT OF FEES (check one box)

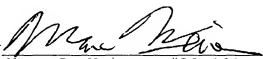
- ☐ A check in the amount of \$180.00 as required by 37 C.F.R. § 1.17(p) is enclosed for the above-identified fee.
- ☐ Please charge Deposit Account No. 02-2448 in the amount required by 37 C.F.R. § 1.17(p) for the above-indicated fee. A triplicate copy of this paper is attached.
- ☒ No fee is required.


If the Examiner has any questions concerning this IDS, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule and charge the appropriate fee to Deposit Account No. 02-2448.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
Marc S. Weiner, #32,181


MSW/MIS/cl
0234-0415P

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Attachment(s) : ☒ PTO-1449
☒ Documents
☒ Foreign Search Report
☐ Fee
☐ Other:

(Rev. 04/30/03)

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

ATTY DOCKET NO.
0234-0415P

APPLICATION NO.
09/739,812

APPLICANT
Shigeru KUROSAWA

FILING DATE
December 20, 2000

GROUP
2817

[illegible][illegible]

OTHER DOCUMENTS (Include Name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.

Application note AN-88, "CMOS Linear Applications" 1986 Linear Applications Databook
National Semiconductor Corporation Santa Clara, CA, USA

EXAMINER

DATE CONSIDERED

EXAMINER Initial if citation considered, whether or not citation is in conformance with M.P.E.P. 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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Patentamt

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2003.3.31

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(Formalities and other matters)

EINGEGANGEN

24. Feb. 2003

BOETERS & LIECK
Patentanwälte



Application No. 00 127 908.2-1233	Ref. 11668-mo	Date 20.02.2003
Applicant Secretary of Agency of Industrial Science and Technology		

Communication pursuant to Article 96(2) EPC

The examination of the above-identified application has revealed that it does not meet the requirements of the European Patent Convention for the reasons enclosed herewith. If the deficiencies indicated are not rectified the application may be refused pursuant to Article 97(1) EPC.

You are invited to file your observations and insofar as the deficiencies are such as to be rectifiable, to correct the indicated deficiencies within a period

of 4 months

from the notification of this communication, this period being computed in accordance with Rules 78(2) and 83(2) and (4) EPC.

One set of amendments to the description, claims and drawings is to be filed within the said period on separate sheets (Rule 36(1) EPC).

Failure to comply with this invitation in due time will result in the application being deemed to be withdrawn (Article 96(3) EPC).



BEASLEY-SUFFOLK D J
Primary Examiner
for the Examining Division

Enclosure(s): 3 page/s reasons (Form 2906)

ANNEX: US 3676.801
AN-08
US 4235081
US 3689902
US 3689902

**Bescheld/Protokoll (Anlage)**

Datum
Date 20.02.2003
Date

Communication/Minutes (Annex)

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Sheet 1
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Notification/Pr cès-verbal (Annexe)

Anmelde-Nr.:
Application No.: 00 127 908.2
Demande n°:

The examination is being carried out on the **following application documents**:

Text for the Contracting States:

CH DE FR GB SE LI

Description, pages:

1-20 as originally filed

Claims, No.:

1-10 as received on 22.10.2002 with letter of 16.10.2002

Drawings, sheets:

1/11-11/11 as originally filed

The following documents (D2, as cited in the European Search Report, D3, D4, D5, D6) are cited by the examiner (see the Guidelines, C-VI, 8.9). Copies of the document are annexed to the communication and the numbering will be adhered to in the rest of the procedure:

D2: US-A-3 676 801 (MUSA FUAD H) 11 July 1972 (1972-07-11)

D3: Application note AN-88, 'CMOS Linear Applications', 1986 Linear Applications Databook National Semiconductor Corporation Santa Clara, CA, USA

D4: US 4735081 A (LUOMA ET AL:) 5 April 1988 (1988-05-05)

D5: US 3689907 A (GUAJARDO) 5 September 1972 (1972-11-05)

D6: US 3879992 A (BARTERA) 29 April 1975 (1975-05-29)

1. The application does not meet the requirements of Article 84 EPC, because claims 1, 2 and 5 are not clear. Additionally, in so far as the claims can be understood, none of the claims exhibit an inventive step in the sense of Article 56 EPC.

It would not be possible for the skilled person to implement an oscillator according to claim 1 because the interconnections between the logic elements, capacitor, resistor and crystal oscillator are not explicit enough. As the figures offer several alternatives, it is not apparent which of these the skilled person would be expected to follow when implementing an oscillator according to the claim. It would appear therefore that the

**Bescheld/Protokoll (Anlage)**

Datum
Date 20.02.2003
Date

Communication/Minutes (Annex)

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Notification/Procès-verbal (Annexe)

Anmelde-Nr.:
Application No.: 00 127 908.2
Demande n°:

claim does not contain all of the features which are essential to the definition of the subject-matter.

An additional lack of clarity arises with the use of the term 'crystal oscillator (X)'. It appears from the available figures that there is no separate crystal oscillator, rather a crystal device has been included. Further, the statement of operating range of 1Mhz to 2GHz is vague, especially as the skilled person would expect a crystal oscillator or the like to operate at a fixed frequency. These objections amount to an overall lack of clarity of the claim.

2. The lack of clarity mentioned in paragraph 1 above notwithstanding, it is appropriate to comment on the overall subject-matter of the claims, as far as they can be understood.

3. The subject-matter of claim 1 appears to relate to the use of a logic gate as the active element in a crystal controlled oscillator. This in itself is known per se from D1 and D2, both of which documents indicate clearly that several different series and parallel combinations of the resistive, capacitive and resonant elements in such circuits are well-known in the art. The choice and design of component values in order to achieve operation of such an oscillator at frequencies which are harmonics or overtones of the fundamental frequency of the resonator are also well-known to any person skilled in the art. Therefore claim 1, insofar as it is understandable, does not contain any subject-matter which could be considered to be novel or inventive (Articles 54(1) and 56, EPC).

4. In analysing the description in conjunction with the figures of the present application, it would appear that the application could relate to the use of logic components in a linear mode, in order to produce a quasi-sinusoidal output signal (see for example, figure 1b, 2b, 3b, etc.) rather than the square wave output which is typically expected. However, it is also well known in the art that logic components, particularly CMOS components, may easily be operated in a linear mode, in which they may be operated as linear oscillators and amplifiers, for example. This is seen clearly from the document D3, which discusses the principles of CMOS Linear Applications. Such a technique would clearly allow an oscillator constructed from such components to operate to a very high frequency such as that mentioned in the present application. Therefore, the

**Bescheid/Protokoll (Anlage)**

Datum
Date 20.02.2003

Communication/Minutes (Annex)

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Notification/Procès-verbal (Annexe)

Anmelde-Nr.:
Application No.: 00 127 908.2
Demande n°:

subject-matter implied by the claims and the description in respect of such linear operation is not inventive.

5. The subject-matter of dependent claims 2, 5 and 6 refers to additional connections to the oscillator circuit of claim 1. The definition of these connections is unclear, and does not satisfy the requirements of Article 84 EPC.

6. The subject-matter of claims 3 and 4 refers to simple alternative choices of technology for the implementation of the circuit of figure 1. Such a choice by itself does not involve any inventive activity and therefore does not satisfy the requirements of Article 56 EPC.

7. The subject-matter of claims 7 to 10 inclusive refers to a specific application of the oscillator circuit of claims 1 to 6. Specifically, it refers to the use of a crystal oscillator in the analysis of chemicals, in which the action of the subject chemical upon the crystal's operating frequency is determined. This technique, and additional techniques for coating the surface of the crystal in order to analyse chemical characteristics of compounds, are well-known in the field of chemical analysis, and examples of these techniques are to be found in the documents D4, figure 3, D5, figure 3 and D6, figure 1. In the light of the art disclosed by these documents, there does not appear to be any novel or inventive subject-matter in claims 7 to 10, and as far as the claims as a whole can be understood, there does not appear to be any inventive subject-matter in the application.

8. It is not at present apparent which part of the application could serve as a basis for a new, allowable claim. Should the applicant nevertheless regard some particular matter as patentable, an independent claim should be filed taking account of Rule 29(1) EPC. The applicant should also indicate in the letter of reply the difference of the subject-matter of the new claim vis-à-vis the state of the art and the significance thereof. However, the applicant is to be advised that in the opinion of the examining division at least some of the objections raised above are such that there appears to be no possibility of overcoming them by amendment. Refusal of the application under Article 97(1) EPC is therefore to be expected.